US EPA RECORDS CENTER REGION 5
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Health Consultation

PACKARD PLANT

DETROIT, WAYNE COUNTY, MICHIGAN

MARCH 23, 1998

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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HEALTH CONSULTATION

PACKARD PLANT

DETROIT, WAYNE COUNTY, MICHIGAN

Prepared by:

Michigan Department of Community Health
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

FOREWORD

The federal Agency for Toxic Substances and Disease Registry (ATSDR) and the Michigan Department of Community Health (MDCH) have a cooperative agreement for conducting assessments and consultations regarding potential health hazards at toxic chemical contamination sites within the State of Michigan. The Michigan Department of Environmental Quality (MDEQ), Superfund Section, has asked the MDCH to evaluate any health risks associated with several properties included in the Brownfield Projects in Detroit and other cities in Michigan.

A Brownfield parcel is an abandoned property, formerly used for industrial or commercial purposes, that some industrial or commercial entity has expressed an interest in acquiring for future use. The local governmental entities have asked the MDEQ to conduct environmental assessments of the Brownfield properties in their jurisdiction. The MDEQ has consulted with the MDCH concerning public health aspects of these assessments.

The MDCH health consultation for a Brownfield property includes consideration of the following fundamental questions:

- Are there any imminent or urgent threats to public health associated with the property?
- Does the proposed future use of the property pose any long-term public health hazard?
- What specific actions, if any, are necessary to make the property safe for future use?
- Is there enough information available to answer these questions, and if not, what additional information is needed?

SUMMARY

The Packard Plant property is a complex of buildings in Detroit, Michigan, that were used from 1907 to 1956 for automobile and truck manufacturing. Since 1960, the property has been used as an industrial park. It has been subdivided and is now leased to a variety of small businesses. Large sections of the complex are vacant. Title to most of the contiguous the property has reverted to the State in lieu of unpaid taxes.

Many windows in the complex are broken. There are large piles of tires, baled plastic, and bird droppings in some areas of the complex. Paint chips collected within the complex during a site inspection visit in July 1997 contain lead. Insulation found in the buildings contains asbestos.

The buildings on the complex should be cleaned and repaired or demolished, with all the trash properly disposed of, before they are used for any future use. The rehabilitation or demolition should use appropriate methods to encapsulate or remove the lead-containing paint and asbestos to minimize exposure of workers, neighboring residents, and those using the property in the future.

BACKGROUND AND STATEMENT OF ISSUES

The Michigan Department of Environmental Quality (MDEQ) has asked the Michigan Department of Community Health (MDCH) to evaluate the health risks associated with the Packard Plant property as part of the Detroit Brownfields Project.

The Packard Plant property is located at the intersection of East Grand Boulevard and Concord Avenue in Detroit, Michigan (Figure 1). The property consists of 6 buildings on both sides of East Grand Boulevard, extending from Interstate 94 to Frederick Avenue between Concord Avenue and a Conrail railroad right-of-way. The Packard Motor Car Company built the complex in 1907 for automobile and truck manufacture. The Packard Motor Car Company went out of business in 1956. In 1960, the complex was converted to an industrial park, the buildings subdivided and leased to many smaller operations, including automotive repair, general storage, and a "splatball" mock combat game. Large sections of the property are vacant. Title to the property has reverted to the State of Michigan in lieu of unpaid taxes (1).

From July 29 to July 30, 1997, the MDEQ conducted field work for a Brownfields Redevelopment Assessment (BFRA) of the Packard Plant property. On July 29, 1997, MDCH staff visited the property with the MDEQ staff.

DISCUSSION

Several rooms in the southern part of the complex were filled with car and truck tire. In some rooms they were piled to the ceiling, and the total is estimated to be approximately 500,000. A former tenant that had conducted a plastics recycling operation in the north part of the complex

observed several 55 gallon drums in a section of the complex they could not enter during their visit to the property. There was trash of various sorts in most of the buildings, including glass from broken windows, capacitor casings, bird droppings, and litter from trespassers. Much of the complex had no internal lighting at the time of the MDCH visit, and many of the windows had been boarded over. Large sections of the interior of the complex were either dimly lit or entirely in darkness though it was broad daylight outside.

The MDEQ collected 9 paint chip samples from the Packard Plant buildings during the BFRA. All the paint samples contained lead, from 625 to 69,100 parts per million (ppm) (2). This is consistent with the age of the buildings. There is no data available on lead contamination in air and other environmental media in the complex. Intact leaded paint poses little risk of human exposure. However, the paint in the buildings is peeling, which increases the likelihood of human exposure to the lead it contains. In addition, certain methods for removal of the paint during rehabilitation of the structures or for demolition might release paint particle dust, which might be carried through the air into the workers' breathing space or to nearby residents.

The MDEQ collected 22 samples of floor and ceiling tile and insulation from the Packard Plant buildings for asbestos analysis during the BFRA. The results of this sampling ranges from no detectable asbestos (less than 1%) to 40% asbestos (2). From a visual inspection of the buildings, MDEQ staff concluded that the amount of asbestos-containing material on the property exceeded the standards set under the U.S. Environmental Protection Agency (U.S. EPA)'s National Emission Standards for Hazardous Air Pollutants (NESHAP), Asbestos Revision,[1] which requires removal of the asbestos-containing material before or during demolition of the building. The NESHAP regulations also specify the removal techniques that are to be used to minimize release of asbestos and human exposure to the materials. Again, this is to be expected given the age of the buildings. There is no data on asbestos concentrations in the air or free on the surfaces, and there is little likelihood of human exposure from intact, properly-installed asbestos-containing tiles or insulation. Wear and weathering might release asbestos fibers from the tiles or insulation. Unless proper techniques are used for removal or encapsulation, as specified under the NESHAP regulations, removal of the asbestos-containing materials or demolition of the structures might also release asbestos fibers into the atmosphere.

MDEQ staff collected two samples of oil from the capacitor casings found in the complex, to determine whether the oil contained polychlorinated biphenyls (PCBs). One sample contained 3.9 ppm PCBs (estimated value), the other none (detection limit 5 ppm) (2).

MDEQ staff collected three samples of soil from an area where transformers had been located, to determine whether the transformers might have leaked PCB-containing oil onto the ground. Analysis for selected metals and PCBs showed that these samples contained lead above the MDEQ Generic Clean-up Criteria for Industrial, Commercial, and Residential Use (Table 1) (2, 3, 4). The PCB concentrations were below the MDEQ Industrial, Commercial, and Residential

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[1] 40 CFR Part 61, Section 61.145(a).

Table 1. Concentrations of chemicals found in soil from a transformer location on the Packard Plant, July 1997.

Chemical	Maximum Concentration (ppm)
cadmium	45
chromium	200
copper	650
lead	5,400
nickel	90
PCBs (total)	1.91
zinc	11,000

Reference: 2

Criteria. The lead concentrations were within the range typically found in urban areas, particularly near buildings the age of the Packard Plant complex. During this era, lead was commonly used in paints and automotive gasoline (5).

Bird droppings, as are present in some areas of the complex, might contain the vectors for various diseases, such as psittacosis. Brief and occasional exposure to the droppings generally poses little hazard of contracting the diseases, though prolonged and frequent close contact increases the risk (6, 7).

CONCLUSIONS

Based on the available data and information, portions of the Packard Plant property are considered a health hazard because of the physical hazards from the waste materials (including old tires and bundled plastic) present and the decay of the building structures. Lead-containing paint and asbestos-containing insulation are also present in the buildings. Large amounts of bird droppings present in some parts of the complex potentially pose human health hazards.

RECOMMENDATIONS

Remove the trash and bird droppings in the buildings from the Packard Plant property while rehabilitating the property for future use.

Repair or demolish the buildings on the property to eliminate the physical hazards.

Use appropriate techniques to remove or encapsulate the lead-containing paint and asbestos-containing insulation during demolition or rehabilitation of the property so that workers and neighboring residents are not exposed to lead or asbestos.

New environmental data or information concerning the future use of this property may require future health consultations.

If any citizen has additional information or health concerns regarding the Packard Plant property, please contact the Michigan Department of Community Health, Environmental Epidemiology Division, at 1-800-648-6942.

REFERENCES

1. Michigan Department of Environmental Quality. Brownfields Redevelopment Assessment Work Plan for Packard Plant, Detroit, Michigan. May 17, 1996.

2. Michigan Department of Environmental Quality. Unpublished laboratory data. August 12, 1997.

3. Howard, A.J., MDNR ERD. Memorandum to ERD staff, subject: Environmental Response Division Operational Memorandum #14 Revision 2: Remedial Action Plans Using Generic Industrial or Generic Commercial Cleanup Criteria or Other Requirements. June 6, 1995.

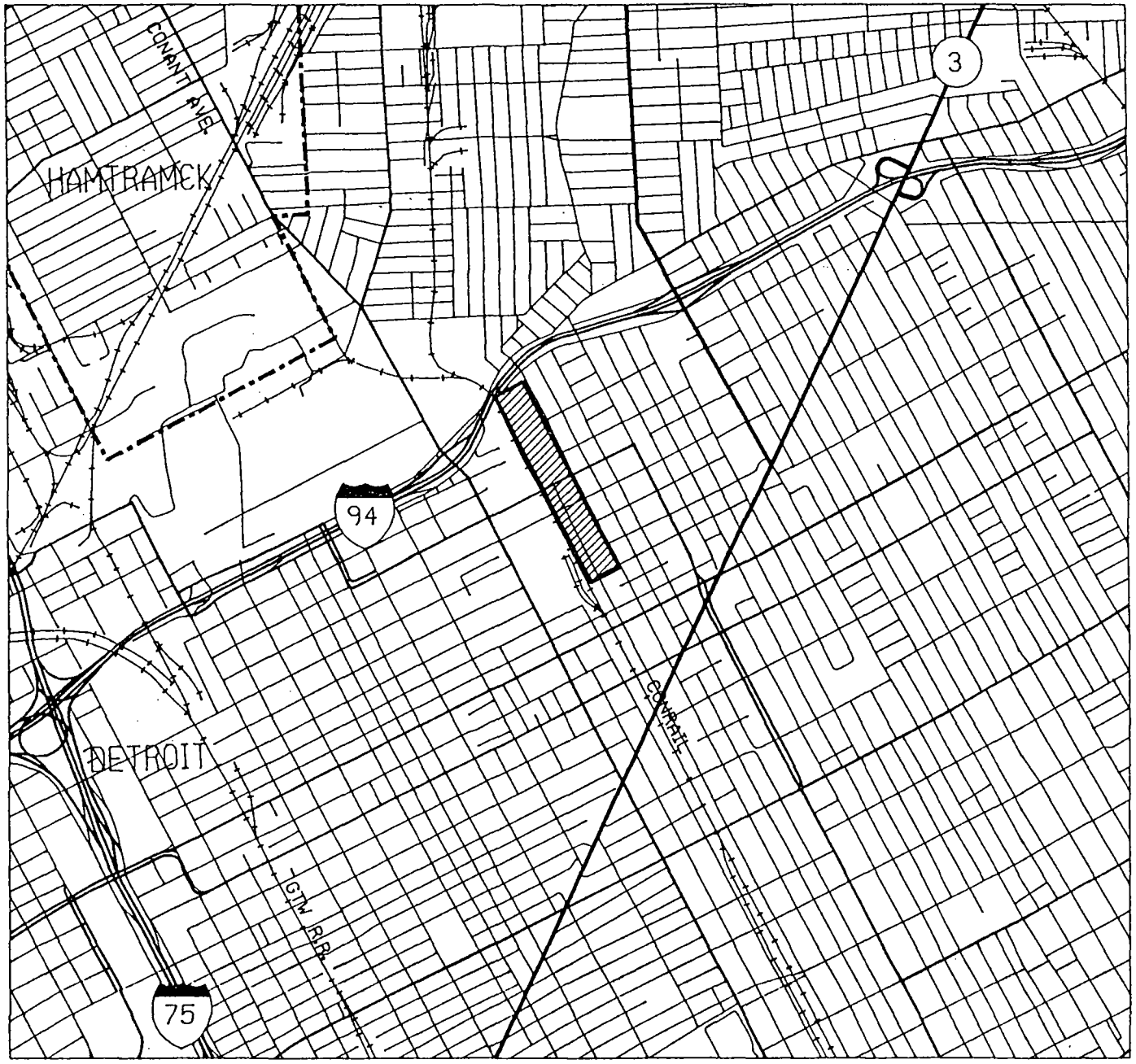
4. Howard, A.J., MDNR ERD. Memorandum to ERD staff, Subject: Interim Environmental Response Division Operational Memorandum #8, Revision 4: Generic Residential Cleanup Criteria. June 5, 1995.

5. Agency for Toxic Substances and Disease Registry. Toxicological Profile for Lead, Update. ATSDR/TP-92/12. April 1993.

6. Benenson, A.S., ed. Control of Communicable Diseases in Man. 15th ed. American Public Health Association. 1990.

7. Acha, P.N., and Szyfres, B. Zoonoses and Communicable Diseases Common to Man and Animals. Pan American Health Organization. 1980.

Figure 1.



PACKARD PLANT

WAYNE COUNTY, MICHIGAN

PROPERTY LOCATION

- 496 INTERSTATE HIGHWAYS
- 2 U.S. HIGHWAYS
- 55 STATE HIGHWAYS
- OTHER MAJOR ROADS
- MINOR ROADS
- TWO-TRACK ROADS
- AIRPORTS
- GRASS AIRSTRIPS
- RAILROADS
- ABANDONED RAILROADS
- RIVERS AND STREAMS
- INTERMITTENT STREAMS
- POLITICAL BOUNDARIES
- PROPERTY

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MILES

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Michigan Department of Community Health

Base map information provided by Michigan Department of Natural Resources, MIRIS Program

10/29/97

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CERTIFICATION

The Packard Plant Health Consultation was prepared by the Michigan Department of Community Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was initiated.

Technical Project Officer, SPS, SSAB, DHAC

The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation and concurs with its findings.

Chief, SPS, SSAB, DHAC, ATSDR